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TITLE: A Device Attached on Bicycles for Walking Dogs

BACKGROUND OF THE INVENTION

The present invention relates to a device for walking dogs and more particularly to a device attached on bicycle for 5 walking dogs.

Many dog lovers like to walk with their dogs to give them exercise, usually this does not provide enough exercise for dogs and also would make the person very tiring. Other would use a string to attach the dogs to their bicycles, but this would 10 easily cause the bicycles to fall or to control the directions because of the pulling force from the dogs. Therefore, some have designed a spring fixed on the bicycle to maintain a certain distance between the bicycle and the dog, ~~this~~ can 15 also avoid the dog and the string from intervening with the pedals and the wheels. This device can be ~~seen in~~ referred to US Patent No. 4,134,364.

Furthermore, another US Patent No. 4,854,269 employs a spring with a rod attached on both ends, so that a certain distance ~~is~~ formed between the two rods and are perpendicular to 20 each other. The second rod is attached to a belt on the dog, while the first rod is attached on a bicycle. The second rod having a hook attached on the belt of the dog for convenient detachment. The first claim ~~of~~ this patent claims is that:

- 25 a) the clip fixed on the bicycle;
- b) the first rod provide a distance between the dog and the

bicycle;

- c) the second rod;
- d) employs a spring to connect the two rods;
- e) the end of the second rod is attached to the belt of
5 the dog and this provides ~~a~~^{has} convenient mechanism for easy detachment to avoid accidents.

All these structures provide a distance between the dog and the bicycle and to avoid accidental pulling.

Referring to Figures 3 and 4 of the above patent, related
10 to the design of the hook and the belt for easy detachment, the hook cannot provide a safe attachment and can easily be detached accidentally. Referring to Figures 1 and 2, the first rod is fixed and attached to the clip and does not provide a convenient and quick detachment mechanism. Even though a
15 turning screw is available, it is not practical and would delay and slow down the detachment process.

SUMMARY OF THE PRESENT INVENTION

The present invention has a main object to provide an easy and convenient detachment device for the hook of the string and
20 the front end of the main rod, for quick and easy detachment of the dog from the bicycle.

Another object is to provide a mechanism with a main rod and a spring for easy and convenient detachment. In comparison with other devices which employ multiple rods, the present
25 invention is much more easily for assembly.

Yet another object is to provide ~~a~~ downward spring instead of a U-shaped upward spring, this can shorten the distance extended outwards to ~~prevent~~ ² the bicycle ~~from bumping~~ onto obstacles. Furthermore, the spring pointing downward is suitable for the height of dogs and makes the dogs feel comfortable.

The present invention of a device attached on bicycles for walking dogs, ~~is~~ mainly comprised of a fixed clip, an auxiliary rod, a main rod and a spring. The fixed clip is clipped on a certain rod of a bicycle. The end of the spring is for a hook of a string to hook on. The fixed clip and the auxiliary rod employ a few screws to connect together. The auxiliary rod having a hole on it for the main ~~rod~~ ^{rod} to enter into. The main rod ~~having~~ ^{has} an elastic ball, the elastic ball is exposed outside and can be inserted into the hole of the auxiliary rod. The end of the main rod is in curved shape, with a few convex dots for a downwardly pointing spring to sleeve on. The bottom end of the spring is a rod body, the upper part of the rod is a hook. Accordingly, ~~press~~ the elastic ball ^{can be pressed} in order to quickly and easily detach the main rod from the auxiliary rod. Since the spring is pointing downward, this provide a firm structure and for easy assembly and easy detachment. The rod pointing downward can shorten the extended distance and ~~is~~ ¹² suitable for the height of dogs.

The present invention will become more fully understood by reference to the following detailed description thereof when

read in conjunction with the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is an exploded perspective view of the present invention,

5 Figure 2 is a perspective assembly view of the present invention,

Figure 3 is a flat assembly view of the present invention,

Figure 4 is ~~a~~ sectional view of the connection of the main and auxiliary rods of the present invention,

10 Figure 5 is ~~a~~ sectional view of the detachment of the main and auxiliary rods of the present invention, and

Figure 6 is a sectional view of the spring connected to the convex dots of the main rod of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

15 The present invention is related to a device attached on bicycles for walking dogs, as referring to Figs. 1, 2 and 3, ~~and~~ mainly ~~comprising~~ a fixed clip 10, an auxiliary rod 25, a main rod 20 and a downwardly pointing spring 30. Firstly, connect the main rod 20 to the spring 30, another end of the
20 main rod 20 is connected to the auxiliary rod 25, and the auxiliary rod 25 is fixed on the fixed clip 10. The fixed clip 10 is formed by a pair of curved pieces, they are fixed on a certain rod near a pad seat of a bicycle by a plurality of screws 11 and nuts 12. The fixed clip 10 ~~having~~ ^{has} a pair
25 of corresponding semi-spaces 13, the semi-spaces 13 ~~having~~ ^{have} a

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plurality of holes 131. A plurality of screw 14 is used to insert into the holes 131 and holes 251 of the auxiliary rod 25. The screws 14 together with the auxiliary rod 25 are disposed inside the semi-spaces 13 of the fixed clip 10. The main rod 20 having a hole 21 on one end, a U-shaped elastic piece 22 is inserted into the main rod 20 on the same end where the hole 21 is disposed. One end of the U-shaped elastic piece 22 has an elastic ball 23, the elastic ball 23 is exposed outside the hole 21 of the main rod 20. The elastic ball 23 can also be inserted into a hole 252 of the auxiliary rod 25. The other end of the main rod 20 having a plurality of corresponding convex dots 24, the convex dots 24 are for a spring end 31 of the spring 30 to sleeve on. The other end of the spring 30 is of a rod body 32, the rod body 32 having a hook 33.

Accordingly, fix the fixed clip 10 onto a certain rod of a bicycle, then fix the auxiliary rod 25 on the fixed clip 10, once this is done, the auxiliary rod 25 and the fixed clip 10 can be fixed on the bicycle, there is no need to detach or mount again. Connect the main rod 20 with the auxiliary rod 25 by inserting the elastic ball 23 into the hole 252 of the auxiliary rod 25, then sleeve the spring end 31 of the spring 30 on the convex dots 24 of the main rod 20 to finish the assembly process as shown in Fig. 6.

Referring to Fig. 3, hook a hook 41 of a dog belt 40 onto

the hook 33 of the spring 30. The hook 41 is an accessory of the belt 40 and can be unhooked anytime. As shown in Figs. 4 and 5, if the dog owner has to detach the dog quickly in a accident, just simply press the elastic ball 23 to detach the auxiliary rod 25 from the hole 252, so that the main rod 20 is detached from the auxiliary rod 25 easily and quickly. The present invention having the spring 30 pointing downward, the fixed clip 10 is fixed on a rod near the pad seat of the bicycle ~~and~~ the main rod 20 is extended outward allows the spring 30 to keep a certain distance from the pedals of the bicycles. While the height of the hook 33 of the spring 30 is suitable for the head of the dog, the belt 40 is at level position for comfort of the dog, which is in contrary to the conventional type of device that ~~having~~ ^{has} the spring pointing upward and the hook ~~is~~ ^{resting} on the dog head with the belt pulling the dog head upward, which makes the dog uncomfortable. The present invention having the spring 30 pointing downward and connected to the main rod 20, in comparison with the conventional U-shaped spring, it ~~shortens~~ ^{has} the length extended outward and can avoid bumping into obstacles.

The present invention ~~having~~ ^{has} one end of the main rod 20 ~~to connect~~ ^{connected} with the spring 30, the other end is connected to the auxiliary rod 25 of the fixed clip 10. The main rod 20 is disposed between the spring 30 and the fixed clip 10. This structural mechanism is firm and can be easily assembled and

detached. While the conventional type device having the spring disposed between the main rod and the auxiliary rod, the main rod is connected to the fixed clip and is inconvenient to detach apart from each other.

5 Note that the specification relating to the above embodiment should be construed as exemplary rather than as limitative of the present invention, with many variations and modifications being readily attainable by a person of average skill in the art without departing from the spirit or scope thereof as 10 defined by the appended claims and their legal equivalents.

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ABSTRACT:

A device attached on bicycles for walking dogs, ~~comprising~~ ^{includes} a fixed clip, an auxiliary rod, a main rod and a spring, ~~said~~ ^{the} /P. 5
fixed clip is fixed on a rod of a bicycle, one end of ~~said~~ ^{the} fixed clip is fixed on a hook of a string to hook on, ~~said~~ ^{the} fixed clip and ~~said~~ ^{the} auxiliary rod employ a plurality of screws to connect together, ~~said auxiliary rod having~~ ^{and has} a hole, a U-shaped elastic piece is disposed inside ~~said~~ ^{the} main rod, an elastic ball is disposed on one end of ~~said~~ ^{the} U-shaped elastic piece, ~~said~~ ^{the} elastic 10 ball is exposed outside of a hole of ~~said~~ ^{the} main rod, ~~said~~ ^{the} elastic ball is inserted inside ~~said~~ ^{the} hole of ~~said~~ ^{the} auxiliary rod so that ~~said~~ ^{the} main rod and ~~said~~ ^{the} auxiliary rod can be connected together, one end of ~~said~~ ^{the} main rod is in curved shape with a plurality of convex dots on it for ~~said~~ downwardly pointing spring to 15 sleeve on. ~~the bottom end of said spring is a rod body with a hook, accordingly, press the elastic ball to detach said auxiliary rod from said main rod, said spring is pointing downward; it features characteristics of firm structure, easy assembly and detachment, it can also shorten the length extended outward and is suitable for the height of the dog.~~

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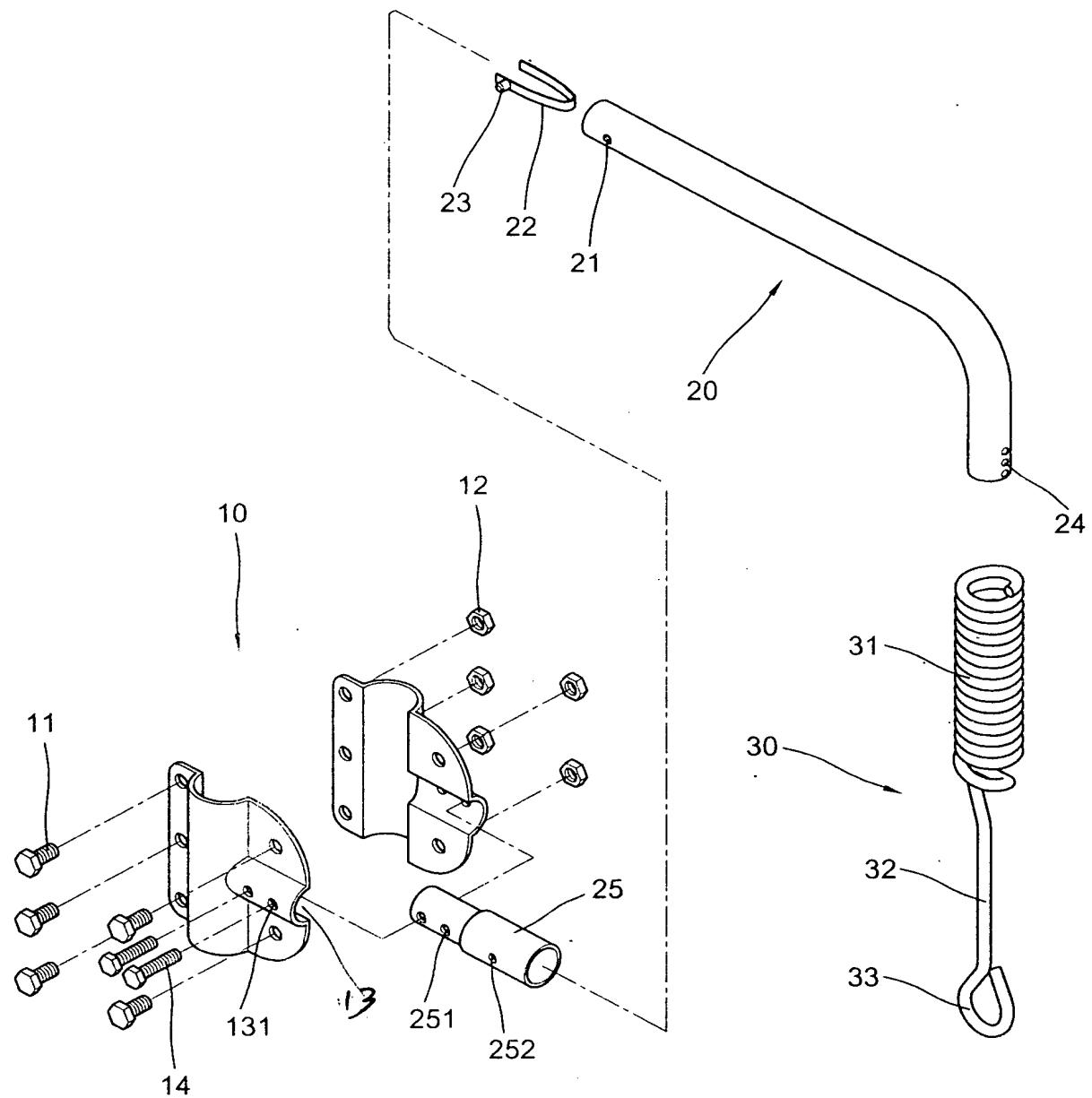


FIG.1